

1 CLAIMS.

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3 We claim:

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5 1. A system for hemodynamic simulation, the system comprising:
6 a fluid;
7 a vessel through which the fluid may be urged;
8 an upstream pump in fluid communication with the fluid; said upstream
9 pump urging the fluid through the vessel in a pushing manner; and
10 a downstream pump in fluid communication with the fluid; said
11 downstream pump being downstream said upstream pump; said downstream pump urging the
12 fluid through the vessel in a pulling manner.

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14 2. The system as described in claim 1, wherein the vessel is a model of a
15 mammalian blood vessel.

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17 3. The system as described in claim 2, wherein the vessel is biocompatible.

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19 4. The system as described in claim 2, wherein the vessel further comprises
20 endothelial cells from a mammal.

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22 5. A method for simulating biomechanical stimuli, the method comprising the
23 steps of:

24 providing a fluid;
25 providing a vessel through which the fluid may be urged;
26 providing an upstream pump in fluid communication with the fluid; said
27 upstream pump urging the fluid through the vessel in a pushing manner; and
28 providing a downstream pump in fluid communication with the fluid; said
29 downstream pump being downstream said upstream pump; said downstream pump urging the
30 fluid through the vessel in a pulling manner.

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32 6. The method as described in claim 5, wherein the vessel further comprises
33 endothelial cells from a mammal.